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## THE INVENTION IS CLAIMED AS:

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1	1. A dialysis catheter comprising:
2	a tube having an implantable portion extending from an external patient
3	portion, the implantable portion having a curved segment between the external
4	patient portion and a distal end of the implantable portion;
5	a first lumen extending through the tube from a first lumen port in the
6	external patient portion to a first lumen port in the curved segment of the
7	implantable portion; and
8	a second lumen extending through the tube from a second lumen port in
9	the external patient portion to a second lumen port in the implantable portion, the
10	second lumen port in the implantable portion being spaced away from the first
11	lumen port in the curved segment.
1	2. The dialysis catheter of claim 1, further comprising at least
2	one implant cuff on the implantable portion of the tube.
1	3. The dialysis catheter of claim 1, wherein the first lumen port
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2	in the curved segment comprises a plurality of openings at an outer radial surface
3	of the curved segment.
1	4. The dialysis catheter of claim 3, wherein the plurality of
2	openings are substantially round holes.
1	5. The dialysis catheter of claim 3, wherein the plurality of
2	openings are slots

6.	The dialysis catheter of claim 1, wherein the implantable
portion has a coiled	shape at the distal end.
7.	The dialysis catheter of claim 6, wherein the second lumen
port in the implanta	ble portion comprises a plurality of holes.
8.	The dialysis catheter of claim 6, wherein the second lumen
port in the implanta	ble portion comprises a plurality of slots.
9.	The dialysis catheter of claim 1, wherein the implantable
portion has a substa	intially straight shape at the distal end.
10.	The dialysis catheter of claim 9, wherein the second lumen
port in the implanta	ble portion comprises a plurality of holes.
11.	The dialysis catheter of claim 9, wherein the second lumen
port in the implanta	ble portion comprises a plurality of slots.
12.	The dialysis catheter of claim 1, wherein the tube is a single
tube having a septu	m between the first and second lumens.
13.	The dialysis catheter of claim 1, wherein the first lumen port
in the curved segme	ent is a patient inflow port.
14.	The dialysis catheter of claim 1, wherein the second lumen
port in the implanta	ble portion is a patient outflow port.
15.	The dialysis catheter of claim 1, wherein the first lumen
terminates prior to	the distal end of the implantable portion.
16.	A dialysis catheter comprising:
	portion has a coiled 7.  port in the implanta 8.  port in the implanta 9.  portion has a substa 10.  port in the implanta 11.  port in the implanta 12.  tube having a septur 13.  in the curved segment 14.  port in the implanta 15.  terminates prior to the

2	a connection section having an inflow port to a patient inflow lumen, and
3	an outflow port to a patient outflow lumen;
4	a patient inflow section extending from the connection section and having
5	a patient inflow opening to the patient inflow lumen;
6	a separation section extending from the patient inflow section; and
7	a patient outflow section extending from the separation section and
8	having a patient outflow opening to the patient outflow lumen.
1	17. The dialysis catheter of claim 16, wherein when the catheter
2	is in a substantially unstressed condition, the connection section is substantially
3	straight, the patient inflow section is curved, and the separation section is
4	substantially straight.
1	18. The dialysis catheter of claim 17, wherein the patient outflow
2	section is coiled.
1	19. The dialysis catheter of claim 17 wherein the patient outflow
2	section is substantially straight.
1	20. The dialysis catheter of claim 16, wherein the patient inflow
2	section is an uppermost portion of an implantable portion of the catheter and the
3	patient outflow section is a lowermost portion of the implantable portion of the
4	catheter.
1	21. The dialysis catheter of claim 16, wherein the connection
2	section, patient inflow section, separation section, and patient outflow section

3	further comprise a flexible tube having an internal septum between the patient
4	inflow and outflow lumens.
1	The dialysis catheter of claim 16, wherein the patient inflow
2	section has a curved shape.
1	23. The dialysis catheter of claim 16, wherein the patient inflow
2	opening to the patient inflow lumen is in a direction away from the patient outflow
3	opening to the patient outflow lumen.
1	24. The dalysis catheter of claim 16, wherein the catheter
2	comprises a single tube having the patient inflow and outflow lumens, and whereir
3	the tube transitions from having both the patient inflow and outflow lumens to
4	having only the patient outflow lumen at a location between the patient inflow
5	section and a distal catheter end
1	25. A peritoneal dialysis catheter comprising a flexible single tube
2	having first and second lumens, the first lumen extending from a first fluid opening
3	to a second fluid opening, the second lumen extending from a third fluid opening
4	to a fourth fluid opening, the first and third fluid openings being in an external
5	patient portion of the catheter, the second and fourth fluid openings being in an
6	implantable portion of the catheter and spaced apart from each other, the
7	implantable portion of the catheter have an generally non-linear shape.
1	26. The peritoneal dialysis catheter of claim 25, wherein the
2	second fluid opening is located at a non-linear shaped section of the implantable

3	portion.
1	27. The peritoneal dialysis catheter of claim 25, wherein the
2	second and fourth fluid openings are separated by a substantially linear tube
3	section which is absent fluid openings to an exterior of the catheter.
1	28. The peritoneal dialysis catheter of claim 25, wherein the
2	second fluid opening is located at a vertically uppermost portion of the implantable
3	portion and the fourth fluid opening is located at a vertically lowermost portion of
4	the implantable portion.
1	29. A dialysis catheter comprising:
2	a substantially straight connection section;
3	a non-linear patient inflow section extending from the connection section;
4	a separation section extending from the patient inflow section;
5	a patient outflow section extending from the separation section;
6	a patient inflow lumen extending from the connection section to the
7	patient inflow section; and
8	a patient outflow lumen extending from the connection section to the
9	patient outflow section.
1	30. The dialysis catheter of claim 29, wherein the separation
2	section has a substantially straight shape.
1	The dialysis catheter of claim 29, wherein the patient outflow
2	section has a coiled shape.

1	1 ne dialysis catheter of claim 29, wherein the patient inflow
2	section has a curved shape of about 180°.
1	33. A peritoneal dialysis catheter having first and second
2	lumens, comprising:
3	a dialysis machine connection section having fluid ports to the first and
4	second lumens;
5	a non-linear section extending from the connection section and having a
6	fluid port to the first lumen;
7	a separation section extending from the non-linear section; and
8	a distal end section extending from the separation section and having a
9	fluid port to the second lumen.
10	34. The peritoneal dialysis catheter of claim 33, wherein the first
11	lumen is a patient inflow lumen and the second lumen is a patient outflow lumen.
12	35. The peritoneal dialysis catheter of claim 33, wherein the non
13	linear section has a curved shape and the fluid port in the non-linear section is
14	pointed in a direction opposite the fluid port in the distal end section.
15	36. A method of flowing fluid through a catheter comprising the
16	steps of:
17	flowing fluid into a first lumen at a proximal end of the catheter;
18	flowing the fluid in the first lumen to a curved path of the first lumen;
19	flowing the fluid in the curved path through a fluid opening in the curved

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1	path and out of the catheter;
2	flowing the fluid which exited the catheter from the opening in the curved
3	path into a second lumen at a distal end of the catheter; and
4	flowing the fluid in the second lumen to a fluid opening at the proximal
5	end of the catheter and out of the catheter.
1	37. A method of implanting a catheter into a patient comprising
2	the steps of:
3	straightening the catheter with a stylet inside of the catheter;
4	inserting a distal end of the straightened catheter through an entrance
5	incision into a peritoneal cavity of the patient while directing the straightened
6	catheter downward;
7	removing part of the stylet from the catheter while advancing the catheter
8	into the peritoneal cavity until the distal end is located in a lower area of the
9	peritoneal cavity and a distal implant cuff is seated in a rectus muscle of the
10	patient;
11	rotating a portion of the stylet and catheter outside of the patient
12	downward and a portion of the stylet and catheter inside of the patient upward;
13	and
14	pulling the catheter through a subcutaneous tunnel having an exit site
15	below the entrance incision.

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